

7. ASEPTIC TECHNIQUE

Aseptic technique, sometimes referred to as sterile technique, means using practices and procedures to prevent contamination from microorganisms (germs) on the patient/resident/client (P/R/C) skin or another person's flora to a sterile body site. These practices are required when performing procedures that expose the person's normally sterile body sites (e.g., intravascular system, spinal canal, subdural space, urinary tract). Practices such as creating a sterile field or preparing skin with an antiseptic significantly reduces the risk of introducing microorganisms that can lead to infections.

Components of aseptic technique prior to a procedure may involve the following:

- Preparing the P/R/C's skin with an antiseptic
- [Hand hygiene](#), preferably with ABHR, or if not accessible, an antimicrobial soap if it is an invasive procedure (e.g. placing central intravascular catheters or catheters for injecting into the spinal canal or subdural spaces)^{13.1}
- Sterile gloves
- Gowns
- Medical masks (procedure or surgical masks), where required, to prevent microorganisms carried in the HCW's nose and mouth from contaminating the sterile field
- Sterile drapes, used to prevent transferring microorganisms from the environment to the P/R/C while the procedure is being performed
- Maintaining a sterile field.

Infections may result from failure to use proper skin antisepsis prior to injection of medications, vaccines or venipuncture.

Chlorhexidine in alcohol inactivates microorganisms on the skin more effectively than most other antiseptics and is the preferred antiseptic for skin preparation prior to insertion of central venous catheters and pulmonary artery catheters.

7.1. Recommendations for Injection Safety Include

- Perform [hand hygiene](#) prior to accessing supplies, handling vials and IV solutions, and preparing or administering medications ^{13.4}
- Use aseptic technique in all aspects of parenteral medication administration, medication vial use, injections and glucose monitoring procedures. Limit access to select trained persons, if possible
- **NEVER** administer medications from the same syringe to more than one P/R/C, even if the needle is changed



- Consider a syringe or needle contaminated after it has been used to enter or connect to a P/R/C's intravenous infusion bag or administration set
- **DO NOT** enter a vial, bag or bottle with a syringe or needle that has been previously used
- **NEVER** store needles and syringes unwrapped as sterility cannot be assured^{13.3}
- Assign medications packaged as multi-use vials to a single P/R/C whenever possible
- **DO NOT** use bags or bottles of intravenous solution as a common source of supply for more than one patient/resident/client
- Provide a puncture resistant sharps container that is available at point of use^{13.4}
- Store and prepare medications and supplies in a clean area on a clean surface^{13.4}
 - Label sterile solutions containers with the date opened and discarded every 24 hours and/or according to manufacturer's instructions^{13.4}
 - Discard outdated medications. There should be a process in place to check expiry dates before use. ^{13.4}

7.2. Aseptic Technique for Invasive Procedures and Handling Injectable Products

- Perform [hand hygiene](#), with ABHR prior to opening supplies:
 - When ABHR is not accessible, perform hand hygiene with antimicrobial soap and water.
- Open tray and supplies only when ready to use to ensure a sterile field
- Perform [hand hygiene](#) prior to applying personal protective equipment, as indicated by the specific procedure

- Prepare the skin of the P/R/C with an appropriate antiseptic before performing an invasive procedure
- Use the appropriate size drape when a drape is required, to maintain a sterile field.
- **DO NOT** administer medications or solutions from single dose vials, ampules or syringes to multiple P/R/C s or combine leftover contents for later use
- Use a sterile, single use disposable needle and syringe for each medication/fluid withdrawal from vials or ampules
- Clean and disinfect the stoppers or injection ports of medication vials, infusion bags, etc., with alcohol before entering the port, vial or bag
- **Use single dose medication vials, prefilled syringes, and ampules in clinical settings.** If the product is only available as multi-dose vials, [see multi-dose vials](#) below.

7.3. Single Dose Vials

Single Dose vials, intended for single patient/resident/client use, typically lack preservatives. The use of these vials for multiple P/R/Cs carries a substantial risk for bacterial contamination.

- Use single dose medication vials, prefilled syringes, and ampules in clinical settings. If the product is only available as multi-dose vials, **see [multi-dose vials](#)** below
- **NEVER** use medications packaged as single use vials for more than one P/R/C
- **ALWAYS** use a sterile syringe and needle/ cannula when entering a vial.
- **NEVER** enter a vial with a syringe or needle/cannula that has been used on a P/R/C.

7.4. Multi-Dose Vials

Transmission of hepatitis B and hepatitis C has followed the reuse of needles and/or syringes when withdrawing from multi-use vials.

- Restrict the multi-dose vial to single P/R/C use whenever possible
- A multi-dose vials should only be used when a product is only available for purchase in multi-dose vials
- Prepare syringes from multi-dose vials from a centralized medication preparation area (i.e., do not take multi-dose vials to the P/R/C environment)
- Store the multi-dose vial in a restricted access location (e.g., in a secure location away from P/R/C bedside and where access is restricted, such as a medication room or locked cart)
- Cleanse the access diaphragm of vials using friction and 70% alcohol. Allow to dry before inserting a needle into the vial^{13.3}
- Use a sterile, single use needle and syringe each time the multi-dose vial is entered
 - **DO NOT** re-enter the multi-dose vial with a previously used needle or syringe
- Label the multi-dose vial with date of first opening. See the product manufacturer's instructions for use for recommended durations of use after entry of a multi-dose vial^{13.3}



- Discard opened multi-dose medication vials according to the manufacturer's instructions or 28 days after opening, whichever is shorter^{13.3}
- Inspect the multi-dose vial for clouding or particulate contamination prior to each use and discard multi-dose vial if clouding or particulate contamination present
- Discard the multi-dose vial if sterility or product integrity is compromised
- **NEVER** leave a needle in a multi-dose vial.^{13.3}

7.5. Single P/R/C Multi-Use Devices

Assign single P/R/C multi-use devices (e.g., glucose sampling devices, finger stick capillary blood sampling devices) to only one P/R/C. If it is not feasible to assign glucose meters to one P/R/C, clean and disinfect before use on others.

7.6. Injecting Material and Placing a Catheter into the Spinal Canal or Subdural Space

Use [aseptic technique](#) including creating a sterile field, aseptic skin preparation and use of a medical mask and sterile gloves (e.g., during lumbar puncture, myelogram, and spinal or epidural anesthesia).

7.7. Insertion of Central Venous Catheters

- Use maximal aseptic barriers as outlined in [7.2 Aseptic Technique for Invasive Procedures and Handling Injectable Products](#) (above), in addition to a cap, medical mask, long sleeved sterile surgical gown, sterile gloves, and a large full body sterile drape
- Prepare the skin with chlorhexidine in alcohol or an equal alternative for inserting any central venous catheter or pulmonary catheter.

7.8. Insertion of Peripheral Venous Catheters or Peripheral Arterial Lines

- Perform [hand hygiene](#), prepare the skin with an antiseptic and wear clean disposable gloves.

7.9. Storage, Assembly or Handling Components of Intravenous (IV) Delivery Systems

- Perform [hand hygiene](#) prior to accessing IV supplies and solutions.^{13.3}